

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Patent Application of ) Attorney Docket No.: **SOEI0021**  
Ken SAWABE et al. )  
Serial No.: 10/595,920 ) Confirmation No. 9014  
Filed: May 19, 2006 )  
For: PHOTORESISTIVE RESIN ) Group Art Unit: 1753  
COMPOSITION, PHOTORESISTIVE )  
ELEMENT, RESIST PATTERN )  
FORMING METHOD AND PROCESS ) Examiner: P. THOMPSON-RUMMEL  
FOR PRODUCING PRINTED WIRING )  
BOARD ) Date: November 26, 2007

**DECLARATION UNDER RULE 132**

1. I, the undersigned, state that I am an expert in the field of photosensitive resin compositions. A copy of my Curriculum Vitae is attached.
2. I am familiar with the above captioned application and claims. In this declaration, I submit experimental evidence demonstrating the superior and unexpected properties achieved by the photosensitive resin composition in accordance with the present invention, as defined by claims 1-20 of the above captioned patent application, over the closest prior art.
3. The following experimental results are the product of tests lead by me and conducted under my supervision.
4. The reference example which is the subject of the present tests was obtained by the same operations as the examples and comparative examples of the present application, except to change the blending quantity of Cl-HABI and EAB in the component (C) and using 2,5-diphenyl-1,3,4-oxadiazole in place of the component (D).
5. In particular, first the solution was made after the component (A), (B) and other components were mixed in order to become the composition shown in the following Table 1

(which is identical to Table 1 of the specification). In addition, the weight of the binder polymer A1 in Table 1 below is the weight for the nonvolatile component.

**TABLE 1**

		Content (parts by weight)
Component A	Binder polymer A1	60
Component B	BPE-500 <sup>*1</sup>	28
	NP-8EA <sup>*2</sup>	6
	MECHPP <sup>*3</sup>	6
Additive	Leucocrystal violet	1
	Malachite green	0.03
Solvent	Acetone	10
	Toluene	7
	N,N-dimethylformamide	3

6. In Table 1 above, \*1 is 2,2-bis(4-(methacryloxy)pentaoxy)phenyl)propane (trade name of Shin-Nakamura Chemical Co., Ltd.), \*2 is nonylphenoxyoctaethylene oxyacrylate (trade name of Kyoeisha Chemical Co., Ltd.), and \*3 is  $\gamma$ -chloro- $\beta$ -hydroxypropyl- $\beta'$ -methacryloyloxyethyl-o-phthalate (trade name of Osaka Organic Chemical Industry, Ltd.).

7. The photosensitive resin composition of the reference example was obtained as the solution with the component (C) and 2,5-diphenyl-1,3,4-oxadiazole combined in the following proportions:

Cl-HABI : 1.0 parts by weight

EAB : 0.2 parts by weight

2,5-diphenyl-1,3,4-oxadiazole : 1.0 parts by weight

“Cl-HABI” represents 2,2'-bis(o-chlorophenyl)-4,4',5,5'-tetraphenylimidazole dimer, “EAB” represents diethylaminobenzophenone (trade name of Hodogaya Chemical Co., Ltd.), and 2,5-diphenyl-1,3,4-oxadiazole from Aldrich products.

8. Evaluation of the photosensitive resin compositions was performed as described in the examples of the present specification. The results are shown in the below Table 2, which for reference also shows the examples and comparative examples of the present application (wherein they are shown in Table 3).

**TABLE 2**

	Example 1	Example 2	Example 3	Example 4	Example 5	Comp. Ex. 1	Comp. Ex. 2	Ref. Ex.
Photosensitivity	9	9	9	9	9	8	9	7
Adhesion ( $\mu\text{m}$ )	35	30	30	35	30	40	45	35
Resolution	40	40	40	40	40	45	45	40
Plating bath contamination [Alloy ratio]	0.97	0.98	0.97	0.99	0.98	0.97	0.70	0.97
Sludge volume (g/L)	0.5	0.7	0.9	0.7	0.5	1.8	1.5	0.5

9. It is clear from Table 2 that the photosensitivity of photosensitive resin composition using 2,5-diphenyl-1,3,4-oxadiazole is inferior to that of the examples and comparative examples of the present patent application. Even if the other properties of the reference example are adequate, the poor photosensitivity renders it unsuitable.

10. I declare under penalty of perjury that the foregoing is true and correct, that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements so made are punishable by fine or imprisonment, or both, under 18 U.S.C. § 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

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SOEI PATENT & LAW

NO. 4053 IP. 5/18

Appln. Serial No. 10/595,920  
Attorney Docket No. SOEI0021

Signed by,

Date: November 21, 2007

Ron Sander

[NAME]